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Jameco Part Number 217584 (DKB20A-12)

KB SERIES

20W WIDE INPUT RANGE DC-DC CONVERTER

OUTPUT SPECIFICATIONS

Voltage Setpoint Accuracy	+/-2% max
Temperature Coefficient	+/-0.03%/°C
Ripple & Noise (20MHz BW)	100mVp-p max
Line Regulation[1]	+/-0.2% max
Load Regulation[2]	+/-0.2% max
Short Circuit Protection	Continuous
OverVoltage Protection	Built-in
External Trim Adj. Range	+/-10%

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40°C to +71°C
Storage Temperature	-55°C to +100°C
Cooling	Free-Air Convection

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD , AND 25 °C UNLESS OTHERWISE NOTED.

INPUT SPECIFICATIONS

Input Voltage Range	2:1 INPUT RANGE
Input Filter	Pi Network

GENERAL SPECIFICATIONS

Efficiency	75% min
Transient Response(Full to 1/2 Load)	<500uSec
Isolation Voltage[3]	1000 VDC min
Isolation Resistance	10^9 ohms min
Switching Frequency	100 KHz min
MTBF	700,000 Hours
Weight	110g Typ
Case Material	Six-Side Shielded Case
Case Size	50.8mm*50.8mm*21mm

FEATURES

- SIX-SIDE SHIELDED CASE
- 9-18V,18-36V,36-72V WIDE INPUT RANGE
- SHORT CIRCUIT PROTECTION
- REMOTE ON/OFF AND TRIM
- NO EXTERNAL COMPONENTS REQUIRED
- TYPICAL EFFICIENCY 80%
- 100% BURNED IN
- INDUSTRY STANDARD PACKAGE
- MTBF > 700,000 HOURS

[1] *High Line to Low Line.*

[2] *Load Regulation is for output load current change from 10% to 100%.*

[3] *For 10 seconds*

SELECTION GUIDE
2:1 20W OUTPUT

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT[4] CURRENT(mA)		EFF (%)[5]	ISOLATION (VDC)
				FULL LOAD	NO LOAD		
SKB20A-05	9-18	5	4000	2083	30	80	1000
SKB20A-12	9-18	12	1667	2058	30	81	1000
SKB20A-15	9-18	15	1333	2058	28	81	1000
DKB20A-05	9-18	+/-5	+/-2000	2083	30	80	1000
DKB20A-12	9-18	+/-12	+/-833	2033	30	82	1000
DKB20A-15	9-18	+/-15	+/-667	2033	28	82	1000
TKB20A-B	9-18	+5,+/-12	2500,+/-310	2083	30	80	1000
TKB20A-C	9-18	+5,+/-15	2500,+/-250	2083	30	80	1000
SKB20B-05	18-36	5	4000	1041	18	80	1000
SKB20B-12	18-36	12	1667	980	18	85	1000
SKB20B-15	18-36	15	1333	980	18	85	1000
DKB20B-05	18-36	+/-5	+/-2000	1041	18	80	1000
DKB20B-12	18-36	+/-12	+/-833	980	18	85	1000
DKB20B-15	18-36	+/-15	+/-667	980	18	85	1000
TKB20B-B	18-36	+5,+/-12	2500,+/-310	1016	18	82	1000
TKB20B-C	18-36	+5,+/-15	2500,+/-250	1016	18	82	1000
SKB20C-05	36-72	5	4000	521	10	80	1000
SKB20C-12	36-72	12	1667	508	9	82	1000
SKB20C-15	36-72	15	1333	508	9	82	1000
DKB20C-05	36-72	+/-5	+/-2000	521	10	80	1000
DKB20C-12	36-72	+/-12	+/-833	508	9	82	1000
DKB20C-15	36-72	+/-15	+/-667	508	9	82	1000
TKB20C-B	36-72	+5,+/-12	2500,+/-310	508	9	82	1000
TKB20C-C	36-72	+5,+/-15	2500,+/-250	508	9	82	1000

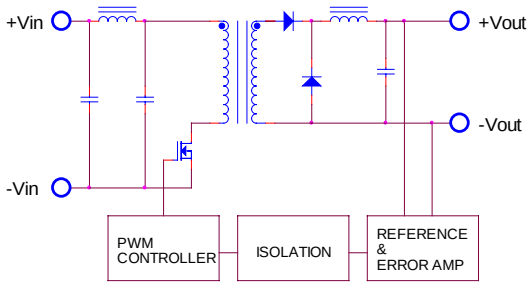
Note: Other input to output voltages may be available. Please contact factory.

[4] *NOMINAL INPUT VOLTAGE.*

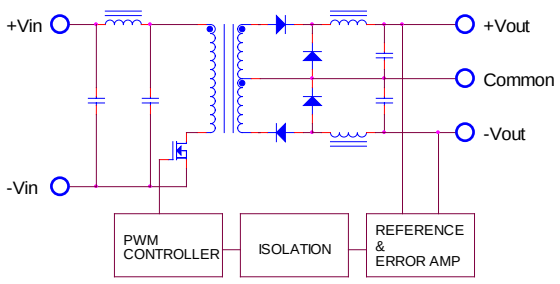
[5] *NOMINAL INPUT VOLTAGE,FULL LOAD.*

SIMPLIFIED SCHEMATIC

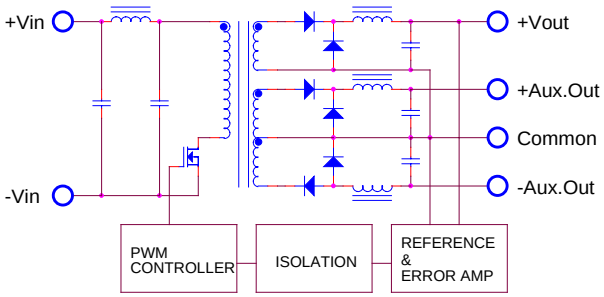
SINGLE OUTPUT



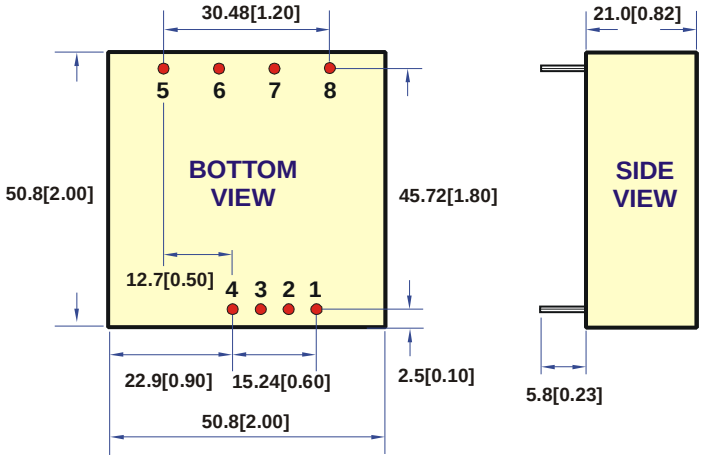
DUAL OUTPUT



TRIPLE OUTPUT



MECHANICAL DIMENSIONS

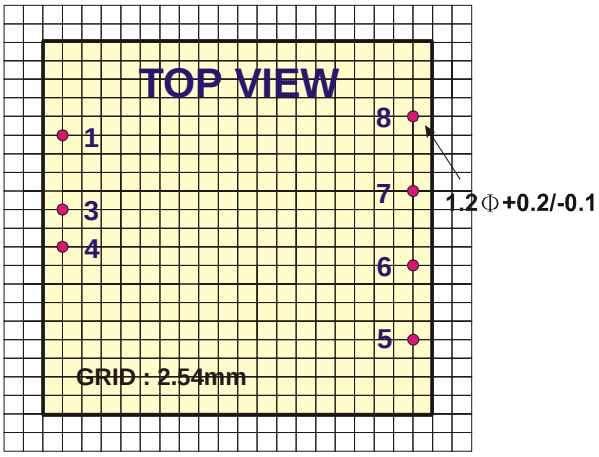


All dimensions are in millimeters[inches]

PIN	SINGLE	DUAL	TRIPLE
1	Remote On/Off		
2	NO PIN		
3	-Vin	-Vin	-Vin
4	+Vin	+Vin	+Vin
5	NC	+Vout	+Aux. out
6	+Vout	Common	+5V out
7	-Vout	-Vout	Common
8	TRIM	TRIM	-Aux. out

Remote On/Off Control			
Control Input	PIN1	Control Common	PIN3
Control Voltage		Converter Shutdown Idle Current	10mA
ON	>+2.5VDC or Open Circuit	Logic Compatibility	CMOS or Open Collector TTL
OFF	<+0.8VDC or Jumper to PIN3		

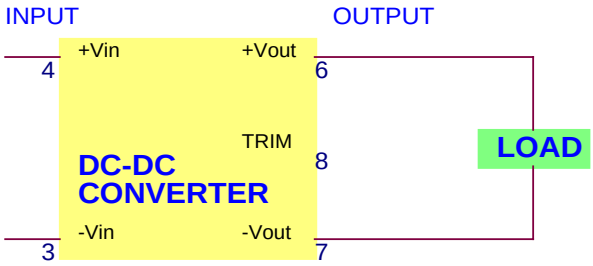
• RECOMMENDED FOOTPRINT DETAILS

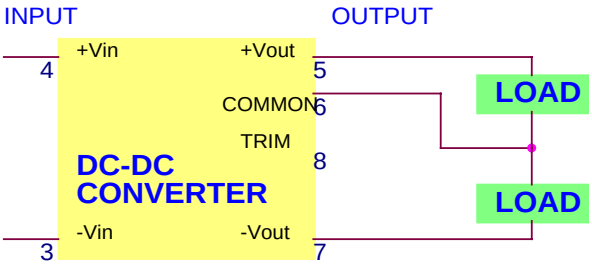


• TYPICAL APPLICATIONS

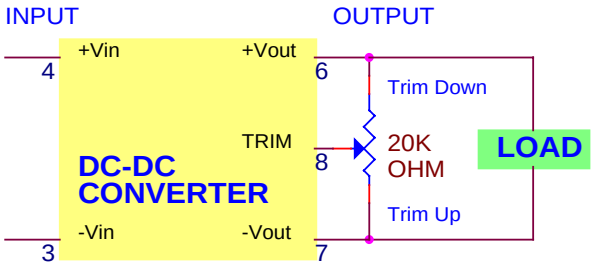
SINGLE OUTPUT **DUAL OUTPUT**

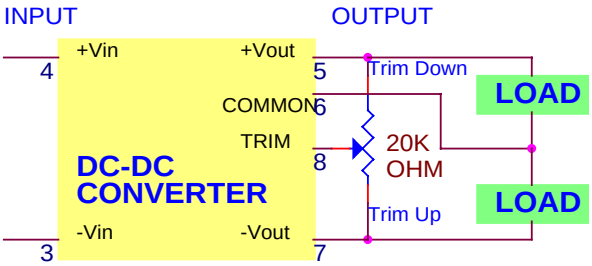
FIXED VOLTAGE OUTPUT



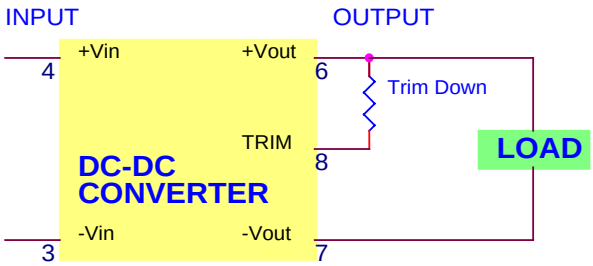


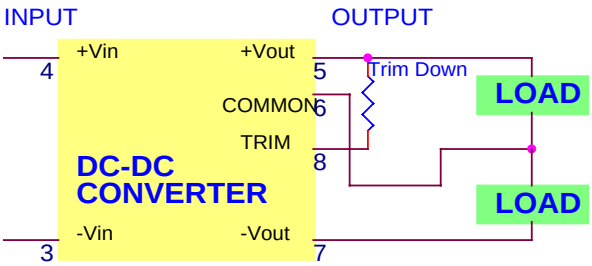
TRIM CONNECTIONS USING A TRIMPOT



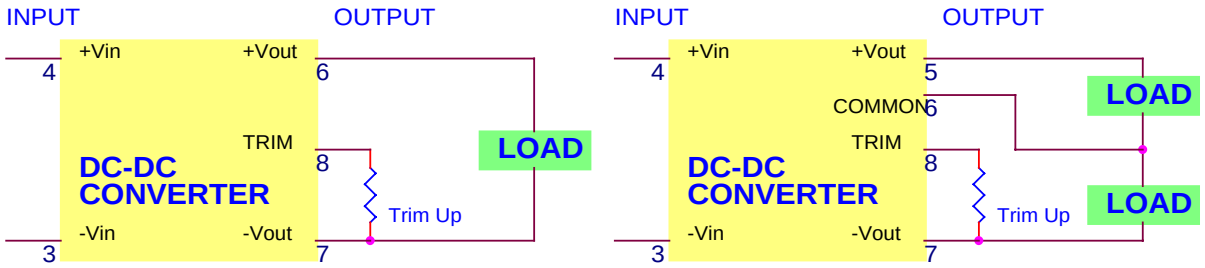


FIXED-VALUE TRIM DOWN RESISTOR



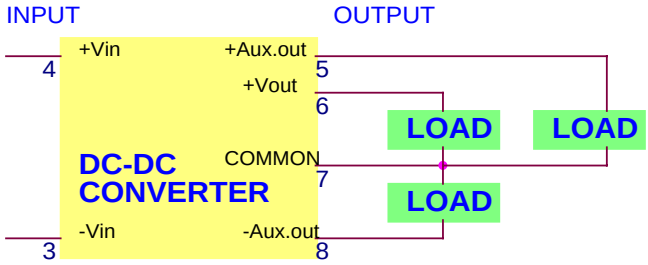


FIXED-VALUE TRIM UP RESISTOR

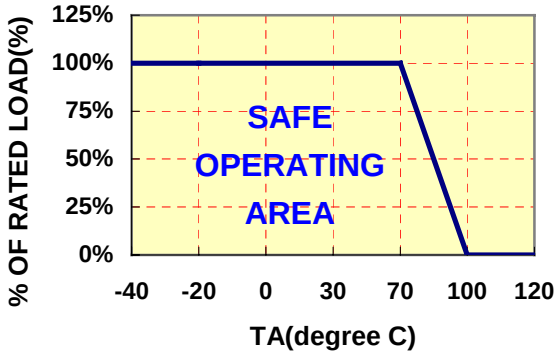


TRIPLE OUTPUT

FIXED VOLTAGE OUTPUT



● TEMPERATURE DERATING



KB SERIES APPLICATION NOTES:

EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the KB series.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 220KHz is required.

External output capacitance is not required for operation, however it is recommended that 10uF tantalum and 0.1uF ceramic capacitance be selected for reduced system noise.

Additional output capacitance may be added for increased filtering, but should not exceed 2200uF.

Negative Outputs:

A negative output voltage may be obtained by connecting the +OUT to circuit ground and

connecting –OUT as the negative output.

Remote ON/OFF:

The remote ON/OFF pin may be left floating if this function is not use. It is recommended to drive this pin with an open collector arrangement or a relay contact. When the ON/OFF pin is pulled low with respect to the –Vin , the converter is placed in a low power drain state.

Output TRIM:

The TRIM pin may be used to adjust the output +/-10% from the nominal setting .this function allows adjustment for voltage drops in the system wiring. If the TRIM function is not required the pin may be left floating.